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Context Matters - Rethinking the Resource Curse in Sub-Saharan Africa

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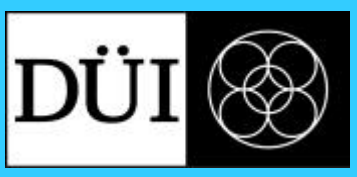
N° 1 **May 2005**



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Edited by the German Overseas Institute (DÜI) in Hamburg.

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DÜI research unit responsible for this issue: Institute of African Affairs.

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Text-processing and production: Wolfgang Bauchhenß / Ditta Kloth

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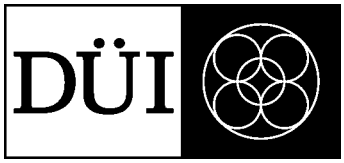

Context Matters – Rethinking the Resource Curse in Sub-Saharan Africa

Abstract

Natural resources in sub-Saharan Africa suffer from a bad reputation. Oil and diamonds, particularly, have been blamed for a number of Africa's illnesses such as poverty, corruption, dictatorship and war. This paper outlines the different areas and transmission channels of how this so-called "resource curse" is said to materialize. By assessing empirical evidence on sub-Saharan Africa it concludes that the resource curse theory fails to sufficiently explain why and how several countries have not or only partly been affected by the "curse". Theoretically, the paper argues that whether or not natural resources are detrimental to a country's socio-economic and political development depends on a number of contextual variables, divided into country-specific conditions and resource-specific conditions (type, degree/level of abundance and dependence, resource revenue management, involved companies etc.). Methodologically, a future research agenda needs to examine the complex interplay of these contextual variables by adding sophisticated comparative research designs, especially "small and medium N" comparisons, to the tool box which has been widely confined to the juxtaposition of "large N" and country case studies.

Key Words: Sub-Saharan Africa; Natural Resources, Political Economy, Institutions, Violent Conflict, Socio-Economic Development; Democracy

JEL Classification: B 25 ; N 5 ; N57 ; O 13

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Zusammenfassung

Context matters: Theoretische und methodologische Überlegungen zum „Ressourcenfluch" im subsaharischen Afrika

Natürliche Ressourcen im subsaharischen Afrika haben zweifellos einen schlechten Ruf. Insbesondere Öl und Diamanten werden für eine Reihe von Afrikas Problemen wie Armut, Korruption, Diktatur und Krieg verantwortlich gemacht. Wissenschaft und Öffentlichkeit haben diese angenommenen negativen Effekte den „Ressourcenfluch" genannt.
Das Papier fasst zunächst die wesentlichen Argumente des Ressourcenfluchs zusammen. In empirischer Hinsicht schlussfolgert das Papier, dass die entsprechenden Hypothesen nicht erklären können, wie und warum einige Fallbeispiele vom Fluch nicht oder nur teilweise erfasst wurden. In theoretischer Hinsicht wird argumentiert, dass sich negative Effekte nur unter bestimmten Kontextbedingungen verwirklichen, die in allgemeine länderspezifische Bedingungen und ressourcenspezifische Bedingungen zu unterteilen sind (Typ, Grad an Abhängigkeit und Reichtum, Management des Ressourcensektors, beteiligte Konzerne etc.).
In methodischer Hinsicht sollte künftige Forschung das komplexe und dynamische Zusammenspiel dieser Kontextvariablen durch sorgfältige vergleichende Studien, insbesondere so genannte „Small and Medium N"-Vergleiche, einfangen, welche die bisher dominierende Beschränkung auf „large N"-Studien einerseits und Einzelfallstudien anderseits ergänzen.

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1. Introduction[1]

Natural resources in sub-Saharan Africa are obviously a subject both timely and pertinent. There is little doubt that natural resources in sub-Saharan Africa play an important role in contemporary Africa.[2] They are not just the dominating commodities African governments and economies have to rely on in international trade. Not even the lack or scarcity of natural resources such as water, fertile land, or minerals and metals seems to be the most salient problem. It is rather the notion of the "resource curse" (Auty 1993) or the "paradox of plenty" (Karl 1997) that has been gaining prominence in the debate on Africa's development and numerous problems. A rapidly growing body of literature on the topic clearly illustrates that this development has been reflected in academia and the public eye (e.g. Gary/Karl 2003; Traub-Merz/Yates 2004; Bannon/Collier 2003).

Moreover, it is very likely that natural resources in sub-Saharan Africa will gain even more relevance in the near future and beyond. The constant increase of the oil price in 2003 and 2004 may be subject to change in the future; other developments will not. The oil boom in the Gulf in Guinea has prompted expectations and concerns in the region itself and outside. U.S. government officials have declared African oil an issue of national security. The hunger for oil is one reason why China's interest in the region has been on the rise. The World Bank has tried to help prevent detrimental effects of oil production in Chad by introducing a special management regime in the oil sector: Revenues have to be used for development and poverty reduction, national and international oversight bodies supervise the process and have to approve oil-related expenditure. Political initiatives are not limited to the oil sector. The "Publish What You Pay"-campaign and the "Extractive Industries Transparency Initiative" aim at enhancing transparency in all mining and resource sectors. The "Kimberley Process" is designed to curb the trade with "conflict" or "blood diamonds" that (have) fuelled civil wars in Angola, Sierra Leone and elsewhere.

In this context, the debate on the "resource curse" in sub-Saharan Africa is likely to endure or – more probably – to gain momentum. Although the debate is already moving towards practical recommendations (USAID 2004; Bannon/Collier 2003), the subject seems to be somewhat trickier than the mainstream literature suggests. As examples such as Botswana or Namibia show, there is no simple automatism that turns natural resource wealth into a "curse". The political economy of natural resources in sub-Saharan Africa

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1 The author is indebted to Jann Lay, Christian Mahnke, Andreas Mehler and Judy Smith-Höhn for their particularly helpful inspiration, comments and advice.

2 Africa and sub-Saharan Africa will be used interchangeably in the volume.

and elsewhere is by far more complex and involves a wide range of aspects which have not been sufficiently addressed thus far.

The paper starts by outlining the affected areas, concepts, approaches and transmission channels of how, precisely, the "curse" is supposed to materialize. It then briefly turns to the empirical evidence in sub-Saharan Africa showing that natural resource abundance obviously produces highly mixed results. The theoretical challenge seems to be first and foremost the careful conceptualisation of respective context conditions – beyond the state of the art. A future research agenda will have to deal with capturing respective interplays and dynamics by employing precise concepts and hypotheses. The paper argues strongly in favour of sophisticated comparative research designs ("Small and Medium N") in order to tackle this methodological challenge and concludes that only an adequate study of the political economy of natural resources will smooth the way for successful intervention and prevention.

2. Defining natural resources

As a starting point it might be helpful to define what is generally understood by natural resources. In a broad sense, resources are literally auxiliary means, i.e. devices to reach a goal; in economy, resources are generally factors of production that promote development or growth. *Natural* resources are natural since they are "gifts of nature". Raw materials such as water, fertile soils and subsoil assets are present without human intervention. Consequently, these natural resources must be differentiated from several other forms of resources such as physical, human and social and institutional capital.[3] The wealth of nations can be thought of as consisting of all these forms of capital, natural resources being just one special class of them (s. Lay/Mahmoud 2004: 5).

Obviously, natural resources are not all alike: They have different characteristics, and this might entail different implications for the question as to whether and how abundance, scarcity or dependence affect economic and political phenomena. It is now widely ac-

[3] To begin with, *physical capital* means funds (available through services, revenues, taxes, loans), yet manmade production facilities such as roads and machines belong to this category as well. Well-educated and skilled people are referred to as *human capital*. Human capital, which is rather attributed to individuals, must not be equated with *social capital,* which above all describes interpersonal phenomena such as social trust that cuts across different segments of the population. In addition, both formal and informal political institutions, which include legal systems and property rights, can be described by the notion of social capital, but should be named more precisely *institutional capital*.

knowledged that the type of natural resource can indeed make a difference. The banana curse might be different from the oil curse, as Jann Lay and Toman Omar Mahmoud (2004) put it. However, there are not only several types of resources but several typologies of resources as well. The most obvious classification seems to be provided by natural science and we can, for instance, distinguish between *renewable resources* such as grains, wood and fish and *non-renewable raw materials* such as gas, gemstones, metals and oil. The latter cannot be replaced once they have been used.

In an economically more relevant perspective, Rick Auty (2001) differentiates between "point" and "diffuse resources" which basically refers to whether they are concentrated in certain areas or dispersed over the whole territory of a country. Phillipe Le Billon (2001, 2002: 37) extends Auty's typology by introducing the additional criteria of whether resources, from the standpoint of the central government, are "proximate" or "distant" i.e. easily accessible and easy to control. Michael L. Ross' (2003b: 55) somewhat similar typology adds a more pronounced political science perspective by asking whether resources are "obstructable" (i.e. their trade can be blocked by opponents) and/or "lootable", diffuse resources being more conducive to potential looting by rebel groups than point resources. Matthias Basedau and Andreas Mehler (2003) have highlighted the strategic aspect of natural resources which stems from three potential characteristics: 1) many types of natural resources open up ample opportunity for income (lucrative resources), 2) some raw materials such as oil or metals are key materials in industrial production, thus attracting foreign interest beyond profiteering potential (externally sensitive resources) and finally 3) some natural resources such as water and fertile soils are simply crucial for the survival of the population (resources for survival). Hence, such resources are commonly connected to scarcity. Certainly there is little doubt that - ceteris paribus - the lack of resources produces social and political problems. However, with regard to violent conflict several studies have proven that abundance is more likely to contribute to violence (de Soysa 2000: 127f.). It has even been argued that abundance is more detrimental to economic growth, social and political development than scarcity. Hence, the principal lack of natural resources is not the focus of the current international debate nor of this paper.

3. The Theoretical Argument: The "Resource Curse" and "The Paradox of Plenty"

As a "paradox of plenty" (Terry Lynn Karl 1997) it is resource abundance that has been dominating the debate on resources in sub-Saharan Africa and elsewhere. Broadly spo-

ken, it is argued that abundant natural resources do not produce the expected blessings but turn out to be a "curse" with regard to a number of aspects.

It is no surprise that the "resource curse" in resource abundant states refers primarily to socio-economic development and to phenomena such as poverty and general economic decline. However, potential detrimental effects of resource abundance are not limited to that. Much public attention has been paid to natural resources as causing, triggering, aggravating and prolonging violent conflicts. A third area that might be affected is governance, including aspects such as corruption, public institutions, and the state in general. More recently, the debate on Africa has discovered adverse effects of natural resources on the prospects for democracy.

In any case, nobody would argue that the "curse" strikes over night once resource extraction or production has begun. There are certain transmission channels or causal mechanisms that might turn resources into problems.

It must be noted at this point that natural resources do not have an independent effect on each of the aforementioned sectors (socio-economic development, state institutions, democracy and peace). Effects are obviously interrelated and this can easily be illustrated.[4] However, this interplay is far from being precisely known and we do not claim to present a complex theoretical model at this stage. Moreover, we have to differentiate between direct and indirect effects, short, mid, and long term effects and between rather unsystematic explanations and systemic approaches and concepts (e.g. "war economy" and "rentier state"). For the sake of clarity, potential or actual effects will be outlined separately. The more direct effects will be assigned to the four possibly affected areas respectively.[5]

3.1 Socio-economic Development

The political economy of natural resources is multifaceted and the literature offers a wide variety of socio-economic, political and institutional explanations of the socio-economic variant of the "resource curse". Respective transmission channels and studies are listed by Ian Gary and Terry Lynn Karl (2003: 21f.) and Michael Ross (2003a: 20ff.). However, the

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4 Violent conflict triggered by natural resources affects the prospects of socio-economic development and democracy. At the same time, socio-economic development, lack of democracy and ill-performing state institutions are conducive to violent conflict.

5 See appendix I. For other summaries of detrimental effects refer to Ross (2003) and Gary/Karl (2003).

following paragraphs primarily rely on the summary by Jann Lay and Toman Omar Mahmoud (2004). Apart from the indirect effects due to violent conflicts and weak institutions, the more narrow or direct socio-economic detrimental effects of resource abundance are at least threefold: Natural resources damage other tradable sectors and sources of economic growth and development, stimulate unwise economic policies and make the economy vulnerable to external shocks.[6]

Decline of other sources of development. Some authors have argued that natural capital *"crowds out" human capital*. According to Gylfason (2001), resource-rich countries neglect the development of their human resources because they are "blinded" by their resource wealth. In a more subtle manner the specialisation pattern of natural resource-rich economies may be interpreted as the driving force behind this crowding-out effect. Industrialisation, i.e. the growth of the manufacturing sector, is typically accompanied by broad-based demand for medium-skilled workers. However, the dominating sectors in resource-rich economies, the service and the resource sector, primarily demand low-skilled and only little high-skilled labour.

Chenery, Robinson and Syrquin (1986) have argued that a characteristic feature of a typical "successful" development path is the growing importance of the manufacturing industry in the early stages of development. The manufacturing sector *exhibits important positive side effects* ("externalities"), such as learning-by-doing effects or "economies of scale" (i.e. techniques once learned can be used in other sectors) in production. Resource-rich economies, however, specialize in sectors such as agriculture and mining without these externalities and with a negative impact on growth.[7] Additionally, many natural resource-based sectors have an enclave character, i.e. there are no linkages to the rest of the economy (Hirschman 1958).

Furthermore, a resource boom is often accompanied by a real appreciation that causes the manufacturing and other tradable sectors to shrink and the non-tradable sector to expand, a phenomenon labelled the "*Dutch disease*".[8] The possible negative effect on long-term growth is shown by Sachs and Warner (1995) in an extension of the Matsuyama (1992) model.

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6 For a more in-depth review of the body of literature see Lay/Mahmoud (2004).

7 Matsuyama (1992) illustrates this effect in an endogenous growth model with externalities in the manufacturing sector.

8 Following the impact of natural gas discoveries in the Netherlands in the 1950s (Corden 1984).

The resulting limited degree of diversification of resource-rich economies produces dependence and is the major reason for the *high macroeconomic vulnerability* of these economies. Although the possible link between macroeconomic volatility and growth is not theoretically well-established, it has been identified empirically as an obstacle to growth (Pallage/Robe 2003). One reason might be that it is difficult to anticipate whether price shocks are temporary or permanent. In the case of a transitory shock the government would want to smoothen the shock and prevent it from having a long-term negative impact. Permanent shocks, however, require structural adjustments. These adjustments can be very costly in social terms in the case of a permanent negative shock, e.g. through generating unemployment.[9]

Moreover, resource rich countries frequently suffer from declining *terms of trade shocks*. For instance, natural resources have often been claimed to be subject to Engel's law, i.e. demand and thus their relative price would fall with rising incomes. Consequently, natural resources thus exhibit lower income elasticities of demand than manufactured products. In addition, northern manufacturers have been accused of exercising market power on commodity markets and forcing down prices.[10] Therefore resource-based economies not only go through boom and bust cycles, but they also face a steady decline in the relative price of their export products. This means that the net barter terms of trade of resource-exporting and manufacture-importing countries tend to fall.[11]

But even if there are no shocks, windfall gains (or losses) require wise economic management. *Inadequate policy responses* may play a more important role in causing economic underperformance than the economic consequences of booms and busts alone. A typical problematic policy response is excessively increased public sector spending in at least three areas: Firstly, governments might find the increase of public employment an attractive short-term policy instrument for reducing unemployment and buying off popular dissatisfaction. Secondly, higher public investment is often provided for economically questionable projects. Particularly large and prestigious projects ("white elephants") be-

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9 The problems following windfall gains and losses are often due to wrong expectations about the nature of the shock. Whereas positive transitory shocks are considered to be permanent, negative permanent shocks are perceived as only temporary. The former case leads to unnecessary and costly changes in economic structures whereas in the latter case, necessary structural adjustment is delayed (for a more detailed discussion see Lay/Mahmoud 2004: 8).

10 See Deaton and Laroque (2003) as well as the literature cited therein.

11 Without a compensating increase in resource export volumes, the income terms of trade will fall accordingly, which, besides having a direct negative welfare effect, also limits growth prospects, as it reduces the ability to import capital goods.

long to this category. Thirdly, the government may be tempted to promote import-substituting or other sectors through subsidies.

Expenditure cuts in all these areas are often not politically feasible as soon as the resource boom comes to end. As a result, the government may run into debt problems which may well come about even without this mechanism: Excessive borrowing may appear to be an acceptable risk given the seemingly never-ending windfall. In fact, almost all African natural resource rich countries are heavily indebted countries (s. Ross 2003a: 21; table 2.4).

The abovementioned transmission channels through which natural resource abundance affects socio-economic development are not complete. Furthermore, an important dimension of the socio-economic effects is their interplay and dependence on political and institutional conditions.

3.2 State, Institutions and Governance

It is widely acknowledged that the quality of political institutions such as the type of property rights arrangements and the quality of state bureaucracy determines to a great deal whether natural resource rents will be managed to the benefit of the economy and society (Boschini/Petterson/Roine 2004). Yet the evolution of institutional arrangements itself may well be negatively affected by natural resource abundance. Respective transmission channels (s. Lay/Mahmoud 2004; Ross 2003a: 24f.) include adverse colonial legacies and the emergence of a rentier state that fuels extreme corruption, clientelism and neopatrimonialism, weakens state institutions and stimulates poor economic policies.

Historical legacies in connection with resource extraction may have an impact on the quality of institutions. Back in colonial times, political institutions and property rights regimes in many natural resource-rich economies were set up to ensure the smooth exploitation of natural resources.[12] In such "extractive" colonies, institutions were designed in order to empower the colonial or state elite to extract minerals or plant cash crops. In contrast, in so-called "settler colonies" including the US, Australia and New Zealand, institutions were set up that generally protected private property. In extractive states, secure property rights were only provided for the politically and socially powerful colonial elite. The vast majority of the population had no effective property rights, not even civil rights, and hence faced a constant risk of expropriation. Such extractive institutions can endure

[12] See Acemoglu, Johnson, and Robinson (2002) and Easterly and Levine (2002) as well as the literature cited therein.

after independence. The new state elites do not have incentives to opt for institutional changes since these changes might reduce the rents from resource extraction.[13] Since most African countries happened to become extractive colonies ("mise en valuer") rather than settler colonies – even Namibia, South Africa and Zimbabwe were never comparable to the US, Australia, and New Zealand in this respect – the colonial economic legacy of Africa has not been conducive to functioning institutions.

The evolution of institutions is of course path-dependent. In some cases such detrimental institutions endured well after decolonisation. However, in many African countries such as Botswana or more recently Chad, abundant natural resources were discovered only after independence. Therefore and maybe more importantly, natural resource abundance in sub-Saharan Africa has shaped institutions and their quality in the post-colonial era, in particular those in the political domain.

Political institutions in resource-rich countries have frequently been described using the concept of the "rentier state". The concept of the rentier state goes back to Mahdavy (1970) who studied the problems of the Iranian economy in the 1960s. In general, the concept has been primarily linked to oil dependent economies in the Middle East.[14] In countries that principally rely on rents from natural resources, the state plays a predominant role in the economy since a large share of resource rents typically accrues to the government. As a result, government becomes autonomous *vis à vis* its population because it need not tax its citizens but can instead use rents to repress and co-opt opposition or fuel clientelist networks (s. Ross 2001; see below). The resulting increased level of autonomy of the government and the politically motivated use of rents by the elite tends to weaken the state; the lack of accountability may lead to corruption and plunder.

In African cases such as Angola, Nigeria and the former Zaïre, mineral and other natural resources have been linked to systemic corruption and the weakness of state institutions. Douglas Yates (1996) has analysed the rentier state in Gabon. The concept of the rentier state is closely related to clientelism and – as a broader concept – neopatrimonialism, terms commonly used to describe political systems in sub-Saharan Africa (s. Bratton/van

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[13] Acemoglu, Johnson, and Robinson (2002) mention two factors determining whether a colony would become a settler or extractive colony. First, the profitability of extractive institutions mattered, which was of course linked to the value of the resources that could be extracted. In addition, a relatively high population density was required that provided a labour pool that could be forced to work in mining and agriculture. Furthermore, pre-existing institutions of corvée, tax administration or tribute may have made it easier to set up extractive institutions.

[14] See for example Mahdavy (1970) and Beblawi (1987) on Arab states, Shambayati (1994) on Turkey and Iran, and Yates (1996) on Gabon and other African states.

de Walle 1994, 1997: 62). Others have named similar or identical concepts "prebendal politics" or the "predatory state". Jean François Bayart's "politique du ventre" (1989; 1993), using resource rich countries such as Cameroon and (then) Zaïre as examples, was upgraded to "The criminalization of the state in Africa" (Bayart et al. 1999). Though neopatrimonialism and the rentier state can exist apart from natural resource abundance – as long as there are other rents such as official development assistance to maintain them – it is probably the fertile soil for such phenomena.

Different initiatives such as the "Publish What You Pay" campaign, the UK-led "Extractive Industries Transparency Initiative", and the specific oil revenue management system in the Chad- Cameroon-Pipeline Project have shown that it has become generally acknowledged that "transparency matters"[15] when it comes to managing natural resource income.

Transparency is closely related to the concept of "good governance". It must be understood, however, that transparency is only one constituent element of good governance, others being efficient and fair allocation of revenues and non-harmful, participatory implementation of policies including all relevant actors and affected communities. As already noted, the (potentially) vast revenues from natural resources tempt elites to divert it to private consumption or to spend income on "white elephant projects" and other misguided economic policies. However, it is the character of politics in the rentier state that has particularly devastating effects on economic policies: The politically motivated allocation of resource rents may imply a tendency to over-consumption of resource rents (or even of over-extraction of resources). Since in most cases, resource rents will not be transferred directly but rather through subsidies, trade restrictions, or granting public sector employment, the state gets deeply involved in economic activities, which leads to major economic distortions and additional welfare costs (Auty/Gelb 2001). In a rentier economy, a large part of the population is hence involved in distributing and consuming rents and trying to get access to it, whereas only a few engage in productive activities; efficiency and dynamism in the economy suffer.[16]

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15 This has in fact been the title of a conference on the "resource curse" organised by the Heinrich-Böll-Foundation in Berlin in May 2004.

16 There is a growing volume of theoretical literature on the political aspects of the "economic resource curse". Robinson, Torvik, and Verdier (2002) illustrate the costs of politically induced misallocations in a formal model. On the costs of rent-seeking to growth, see for example Murphy, Shleifer, and Vishny (1993). Different mechanisms of how natural resource booms can lead to lower welfare in the presence of rent-seeking are reviewed in Torvik (2002).

But even if development-oriented policies are pursued, resource abundance might affect development: By transferring the "psychology of windfall" to resource rich countries one might argue that having abundant natural resources discourages efforts to build a healthy institutional framework, including the set-up of an efficient state bureaucracy which itself is likely to participate in rent-seeking and corruption.[17]

Any popular pressure to reform all these areas might be blocked through another feature of resource rich countries: Their lack of accountable democratic governments.

3.3 Democracy and Human Rights

The effects of natural resources on human rights in general and especially the prospects for democratisation and the consolidation of democracy in Africa – which, as John F. Clark (2005) points out, are two distinct phenomena – have not been in the heart of the debate thus far. With special reference to the Middle East and its autocracies, a theoretical framework is provided by Michael L. Ross (2001) that, albeit focussing on oil in a global perspective, can be applied to Africa and natural resources in general. Ross distinguishes between a modernization effect, a rentier effect and a repression effect.

Lack of Modernization. In his famous quote, Seymour M. Lipset (1959) argued that "the more well-to-do a nation the greater the chances that it will sustain democracy". Although modernization theory has been subject to harsh criticism and does not address the question of resource abundance per se, one can argue that adverse effects of natural resources on growth and poverty reduction noted above can be conceptualised as indirect obstacles to democracy in respective countries. More importantly, modernization, in more sophisticated terms, involves a number of social changes, typically as a result of industrialisation, that are rather the cause of democratisation and consolidation than economic prosperity alone. In this respect, specific features of rentier states might well produce growth – at least initially –yet fail to bring about societal and cultural changes such as occupational specialization, urbanization and higher levels of education, since the (potential) source of wealth stems from a small and isolated sector in economy. Ronald Inglehart (1997: 163) identified higher educational levels and rising occupational specialization as the respective intervening variables which produce a more articulate public as well as workers and employees who are accustomed to thinking for themselves whilst working and are therefore better equipped to organise and communicate politically.

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[17] It becomes evident again that effects on socio-economics on the one hand and effects on governance on the other hand can only be separated artificially.

Once these skills have been transferred to the political realm they facilitate the formation of social capital and a vibrant civil society that can act as a watchdog and a countervailing power to authoritarian governments, which in turn will further enhance the prospects for democratisation, the consolidation of democracy and the promotion of human rights in general.

The *rentier effect* is closely related to the modernization effect and cuts into a number of aspects, some of which have already been noted with regard to the efficiency of institutions. Generally, income from natural resources reduces the accountability of the state elite and the prospects for emerging countervailing powers to challenge the entrenched authoritarian governments. The "taxation effect" suggests that when governments derive sufficient income from natural resources, they will be less likely to tax the country's citizens. In turn, citizens will be less likely to demand accountability from them. As Douglas Yates (1996: 35) puts it: "There can be 'no representation without taxation'". In a more proactive manner, resource revenue can be used for patronage and cooptation, thus buying off demands for participation and accountability. This applies both to the individual level and the potential for groups that are independent from the state.

Elites may not only use carrots to impede strong opposition, but sticks as well. This *repression effect* has two dimensions. Firstly, governments might spend resource revenue on a huge state security apparatus. Secondly, increased spending for the military, police and intelligence services might be the response to civil unrest caused by natural resources. Once natural resources have contributed to violence, almost inevitably, the prospects for democracy and even more so human rights in general, diminish and might further deteriorate though a repressive response by the government.

Thus far, negative effects on the prospects of democracy have been limited to internal variables and domestic politics respectively. However, the framework should be supplemented by a pronounced international perspective: A final, more direct negative effect on democracy from natural resources derives from the fact that resources are externally sensitive in two ways (Basedau/Mehler 2003): Particularly commodities such as oil and coltan have implications for the functioning of industrial production in foreign countries and, hence, become an issue of national security for these countries. Moreover, natural resources are export commodities and open up opportunity for profiteering both for local governments as well as multinational companies. Consequently, resource rich countries become preferential trading partner and subject to foreign national interest. In this context of "perverse international incentives" (Gary/Karl 2003: 20), pro-democratic political pressures become less likely and at the same time less promising, since the respective coun-

tries do not rely on development assistance. Low pressures on Sudan in the Darfur crisis in 2004 have been motivated by Chinese and Russian interest in oil supply and arms trade. To make it worse, external rivalries over resource rich countries in "zones of influence" make it extremely improbable that different countries will agree on a joint effort to press for democratisation in a resource rich country. In a worst case scenario external interest can be conducive to war. As pointed out before, this cuts down prospects for democracy and human rights dramatically. However, the linkage between natural resources and conflict is an issue on its own right.

3.4 Peace and Security

The possible detrimental effects of natural resources on socio-economic development, functioning of state institutions, accountability and legitimacy of governments have already been identified. Since these factors can be looked upon as "root causes" of violent conflict as well (s. Ross 2003a), they represent *indirect effects* of natural resources on violence. The more direct effects of natural resources on peace and violence, however, can be differentiated with regard to several aspects (s. Paes 2003: 96f., Gary/Karl 2003: 23f.). One has to ask whether natural resources are root causes, aggravating, triggering or prolonging factors. Moreover, one should be aware of different conflict formations in terms of geography and involved actors. In the more analytic sense, however, the most fruitful connections between natural resources and conflict are related to a) motives for violence and b) means and opportunity for exert systematic violence and warfare.

The debate on natural resources as a *motive for violence* has been dominated by the juxtaposition of "greed and grievance" (s. Berdal/Malone 2000, Collier/Hoeffler 2001). The grievance hypothesis claims that segments of the population or regions might feel deprived of the benefits of resource-related income (while possibly carrying the ecological burden of production) and therefore take up arms. Typically, grievance is associated with secessionist upsurges: When central governments (tend to) monopolize resource income, the resource producing regions might develop feelings of deprivation and grievances that, in turn, trigger violent secessionist movements such as in the oil-rich regions of Cabinda in Angola and in the Niger Delta or in copper rich Katanga in the 1960s.

However, perhaps the most common present-day spurs to violence over resources are quarrels over their prize as booty. Their profitability stimulates, in the words of one World Bank report (Collier/Hoeffler 2001), the "greed" of both internal and external players. Though greed and grievance might sometimes be hard to differentiate, "greed" is not

so much connected to perceived inequality but rather to narrow ambitions by individuals. In the resource-rich and ethnically heterogeneous Democratic Republic of Congo (DRC), various rebel groups have not been seeking secession, but rather power over the capital Kinshasa in order to access resource-related benefits. In Angola, Sierra Leone, Liberia and Congo-Brazzaville as well, the specific economic interests of the main players have always been amongst the primary issues.

Even when other fuses originally ignite conflicts, the prize of mineral wealth can help prolong them. Thus political reasons initially drew intervention in the DRC by forces from neighbouring countries such as Rwanda, Uganda and Zimbabwe, but these forces increasingly acted like mercenaries or multinational companies that had taken their return in the form of prospecting rights for diamonds, gold and coltan. Oil fields developed in Sudan from 1994 on have given the conflict between north and south — which was originally genuinely political —a different coloration. In Angola and Sierra Leone, revenues from the sale of diamonds provided UNITA and RUF rebels with the funds to sustain their military fighting power for a long time. In Liberia, tropical timber served this purpose until 1997.

Though greed and grievance are usually motives in civil wars, there are regional and international implications. Greed might also be the motive for border conflicts over resource rich regions such as that between Cameroon and Nigeria (Bakassi Peninsula). The intervention of several neighbouring countries in the war in the DRC has to some degree been motivated by the country's vast natural resources. Large–scale, direct interventions by Western or other countries, such as in Iraq in 2003[18], have not been witnessed in sub-Saharan Africa in the post-Cold War era. However, during the Cold War era, Western countries and especially France sent troops to support pro-Western regimes. Moreover, Western countries and/or multinational companies have supported warring factions beyond the Cold War era in order to gain or maintain control over externally sensitive resources needed for energy supply or industrial production, not to mention the prospects for profit that go with it. In Congo-Brazzaville in 1997, rivalries over oil between US-American and French oil companies apparently triggered French support for Denis Nguesso-Sassou, who succeeded in defeating former president Pascal Lissouba in civil war.

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[18] However, this does not suggest that the Iraq war was exclusively motivated by Iraq's wealth in oil.

As Collier et al. (2003) have argued, violent conflicts not only require a motive, but also the *means and opportunity* for it. Formation, deployment and maintenance of armies and rebel groups is enormously costly. Natural resources such as oil, coltan and diamonds create opportunities for the required income. This income is unthinkable without an outside environment ready to trade resources, arms and all other kinds of supplies. Some, like Mats Berdal and David A. Malone (2000), even go so far as to talk of "war economies", which describes a systemic interaction: Warring parties, multinational companies and arms dealers profit from a lawless situation that does not constrict their opportunities for enrichment and even widens them, given the absence of government monitoring. Profiteering or looting, as Michael L. Ross (Ross 2003b; Paes 2004) puts it, is especially lucrative if little infrastructure and know-how are needed to exploit the resources (tropical timber), if they are easy to handle and therefore ideal for smuggling (diamonds), or if offshore oil production facilities, for example, can easily be protected against attacks by opponents. Contrarily, onshore oil drilling facilities and pipelines are particularly vulnerable to guerrilla attacks, thus creating opportunities for rebels (Paes 2003: 96f.).[19]

Moreover, as argued above, when resource-related income is used to raise military spending in a pre-violence stage it might well contribute to already existing tension (see Paes 2004; Gary/Karl 2003: 23), albeit the link between armament and violent conflict might be more complex and also includes violence inhibiting aspects.

4. A Worst Case Scenario for Resource Rich Countries in Sub-Saharan Africa? A Note on Empirical Evidence

The theoretical approaches presented thus far seem to justify worst case predictions for resource rich countries in sub-Saharan Africa. And in fact, to some extent, negative oversimplification has become fashionable in the public and partly in the scientific community. At this point it is therefore indispensable to issue a warning against natural resources being viewed essentially as a "curse" for respective countries or a single cause for most of Africa's problems. There are important empirical, methodological and theoretical considerations to be made which suggest that natural resources alone are less detrimental as frequently perceived. Since theoretical and – to a lesser degree – methodological con-

[19] A slightly more harmless variant, in the absence of a government monopoly on the exercise of force, is the blackmail potential available to warlords. They secure government posts and a share in mining revenues in exchange for (temporarily) renouncing violence. The recent – already shaky – peace treaty in the Democratic Republic of Congo could be interpreted in this light.

straints stem from empirical evidence, we will begin with a brief assessment of the empirical evidence.

Macro-quantitative and country case studies have proven that resource rich and dependent countries are more likely to suffer from civil wars (e.g. Collier/Hoeffler 2001; Collier et al. 2003; de Soysa 2000) - and this is particularly true for sub-Saharan-Africa (Ross 2003a: 17f.). Moreover, resource abundance and dependence is frequently associated with corruption and weak state institutions (Moore 2004; Yates 1996), authoritarian rule (Ross 2001), as well as economic decline and poverty (Ross 2003; Gary/Karl 2003; Lay/Mahmoud 2005). However, empirical evidence might not be as impressive as it seems at first sight.

Firstly, the data base in macro-quantitative studies is often neither very reliable nor exhaustive, particularly in the sub-Saharan context. Secondly, indicators and operationalisations often lack validity with regard to the theoretical concepts. Frequently, abundance in resources is measured through dependence, both of which are principally independent and different phenomena (de Soysa 2000; see below).

Thirdly, although detrimental effects seem more likely – notwithstanding studies that find contrary results (Herb 2003) –, the degree of probability is perhaps lower than expected. For example, the likelihood of violent conflict in highly resource dependent countries is a mere 30% according to Bannon and Collier (2003: 3). As Ross (2003a: 19) points out, "…for every resource rich country that has suffered from violent conflict, two or three have avoided it".

These statements refer to violent conflict in a global perspective, but they apply roughly to resource rich countries and other possibly affected areas in sub-Saharan Africa as well. If we compare the 15 major oil and diamond producing countries south of the Sahara we find a highly uneven profile of individual countries in terms of indicators for economic growth, human development, governance, democracy and peace (s. table 1). If we assume that resource rich countries have to perform below average by regional standards to be affected by the "resource curse", we find three countries (Botswana, Namibia and South Africa) without any problematic effect(s) during the last 10 to 15 years. Gabon exhibits one negative rating and three countries (Equatorial Guinea, Nigeria and Guinea) display two negative ratings. Only two countries (DRC and CAR) seem to be fully affected.

In terms of violence which is not measured against a sub-Saharan mean, the record might be worse compared to the 30% violence probability mentioned above and, with eight out of 15 cases exceeds 50%. However, the chart does not capture the intensity and the dynamics of peace and violence. In Liberia and Sierra Leone, there have been substantial

peace processes in recent years. In Nigeria, the level of oil-related violence is still deplorable but rather low. The same applies to Angola, where violence is now limited to the enclave of Cabinda after the end of the conflict on the mainland in 2002. Diamonds and oil have been blamed for the conflict between UNITA and the MPLA, but evidently have not obstructed the end of this conflict. It can even be argued that relative revenue advantages on the part of the government helped defeat UNITA (s. Basedau/Mehler 2003). Moreover, the death of UNITA-leader Jonas Savimbi in early 2002, as a key factor for the peace accord in April 2002, points to non-resource related factors. The same may apply to Sudan. A peace agreement between the North and the South – which should not be confused with the Darfur crisis – was signed in early January 2005, whilst oil production continues to rise.

Table 1: Socio-Economic and Political Profile of Resource Rich Countries*

	Economic Growth 1990-2003	Human Development 2004	Governance 2002	Democracy 2004	Peace 1995-2004	Negatively affected areas
Angola	Ø	-	-	-	-	4
Botswana	+	+	+	+	+	0
CAR	-	-	-	-	-	5
Congo, DR	-	-	-	-	-	5
Congo, R.	-	Ø	-	Ø	-	3
Equ. Guinea	+	+	-	-	+	2
Gabon	-	+	Ø	Ø	+	1
Guinea	-	Ø	Ø	-	+	2
Liberia	+	-	-	-	-	4
Namibia	+	+	+	+	+	0
Nigeria	Ø	Ø	-	Ø	-	2
Sierra Leone	-	-	-	Ø	-	4
South Africa	Ø	+	+	+	+	0
Sudan	N/a	Ø	-	-	-	3
	6	5	9	7	8	35

* Major oil and diamond producers measured against sub-Saharan mean; Chad only begun oil production in 2003 and has therefore been left out; columns 2-5: + refers to countries above SSA mean, - to countries below SSA mean, Ø around SSA mean; column 6: + no conflict, - violent conflict.

For sources and coding see appendix III.

It would be premature to pass final judgements on causal relations in general and in the country cases under investigation at this point. In fact, the rather unsophisticated comparison we have undertaken is based on correlations and cannot establish causal relationships. Yet this principally applies to more sophisticated quantitative studies as well. One should keep in mind that correlation and causation are not identical. It is always possible that relevant factors have been left out which might provide superior explanatory value.

However, the rather sketchy evidence clearly indicates partial falsification of negative effects as predicted by the "resource curse" theory in some countries and some areas respectively. Evidently, effects of natural resources differ significantly from country to country.

5. The Theoretical Challenge: Context Matters

Related to that but more importantly, the most serious objection to the "resource curse" derives from the empirical finding that the resource curse does not inevitably materialize but is merely a probability. Full or partial exceptions such as Botswana and Gabon are not just "lucky". Exceptions and variations require theoretical explanation which are most likely found in the country-specific context, i.e. adverse effects of resource abundance are most likely only, or particularly, under certain contextual conditions. There is no transmission channel cited above which works without the interference of other variables: For instance, boom and bust cycles above all affect countries that are dependent on certain volatile commodities. Unwise use of revenues and corruption might partly be due to country specific legacies or even due to idiosyncrasies of political leaders. Violent secessionist movements are more likely in countries where resources are concentrated in certain regions and the revenue management system is perceived as being unfavourable by the region's leaders.

Hence, in the strict sense, there is no such thing as a "resource curse". Socio-economic and political problems associated with natural resources are not created by supernatural forces. In fact, whether oil or other resources turn out to be beneficial or detrimental to a country's socio-economic and political development depends on a fairly dynamic and complex interplay of a number of contextual variables. Otherwise a "miracle" would be needed to explain why several resource rich countries have been spared partly or fully by the "curse". It might only be due to overoptimistic expectations of a "blessing" that resource abundance seems to be a "curse".

Notwithstanding a certain tendency towards negative oversimplification, we do not imply that the resource curse literature –at least the more serious scholars- claims natural resources to be an unchangeable destiny: "*The natural resource curse is not destiny*" (Bannon/Collier 2003: 11). A complex set of other factors always needs to be taken into account when assessing the causes of violent conflict (Ross 2003a: 19). However, we believe that this challenge has not been sufficiently addressed in the debate and research thus far. It is remarkable that the debate has started to give precise and extensive recommendations, especially in terms of transparency, efficiency in the resource sector, governance in general and other contextual variables (Bannon/Collier 2003; USAID 2004; Gary/Karl 2003: 79-82), but necessary theoretical and methodological conclusions for the initial effects of natural resources on political and socio-economic development (and their study) have hardly ever been drawn.

It is not sufficient to theoretically acknowledge the general relevance of surrounding conditions. A careful conceptualisation and empirical analysis of different – positive or negative – scenarios in different countries, their exact causal mechanisms and interplays as well as the relative weight of natural resources *vis à vis* the context – including different types of mechanisms - is needed. A comparative, more contextually sensitive study of the political economy of resources has begun only recently (Ross 2004; Snyder/Bhavnani 2004). Thus, the following paragraphs aim at outlining some of the pertinent research questions and concepts.

5.1 General Socio-economic and Political Country-Specific Conditions

One can roughly distinguish between two sets of contextual variables that should be taken into account when discussing the effects of natural resources in any given country: Firstly, one has to assess the general socio-economic and political conditions that exist before resources are exploited (or this extraction becomes an option in the minds of actors). Variables such as relations between identity groups, the level and dynamics of socio-economic development, the design and functioning of public and state institutions, behavioural patterns of elites, political parties, the military and civil society - not forgetting the regional and global setting - have to be scrutinised carefully when studying resource-related problems in any country. The interplay of these variables can create problems *independently* from resource production and this has, in fact, been the case in countries such as the oil producing newcomer, Chad, since independence. In Sudan, for example, the (renewed) outbreak of the civil war in 1983 was caused by frictions between

North and South and cannot be attributed to oil production. Herb (2003) does not find consistent support for a negative effect of rentierism on the prospects of democracy but concludes that democracy scores in the surrounding region are strongly correlated with a country's own democracy score.

Hence, one should be cautious to attribute any problem exclusively to resource production. Again, there is a difference between causation and correlation. And it is certainly possible that correlations turn out to provide significantly lesser explanatory value when general non- and pre-extraction country specific conditions are added to the framework of analysis.

5.2 Resource Specific Conditions

However, more interestingly, once resource extraction has started or has become a realistic prospect in the minds of actors, the very same variables are more or less subject to change. Still, effects of resource production do not come about overnight. This is exactly where the specific conditions of resource exploitation in the country come into play, the second set of contextual variables. These conditions are actually *variables*, i.e. they can and do differ with regard to a number of aspects. Their variation can have a significant influence on the outcome. And their variation itself depends on non-resource specific conditions.

As already noted at the beginning of the paper, the *type of resource* makes a difference. As Jann Lay and Toman Omar Mahmoud (2004) have pointed out, the banana curse is different from the oil curse. Oil is a special liquid. Its use in industrial production and the dependence of Western industries on it make oil producing countries far more likely objects of foreign policy or even strategic interest than countries rich in agrarian products such as bananas or cacao. Moreover, macroeconomic vulnerability and the likelihood of boom and bust cycles and decline in terms of trade depend on the type of resource. Traditionally, the oil price is very volatile, whereas copper, for example, was subject to a constant decrease in commodity prices during long periods. Others such as gold and diamonds tend to be relatively stable.

Closely related to this distinction is the *location* and *technical way of exploitation*. The debate has been comparatively vocal in this regard: Auty's (2001), Le Billon's (2002) and Ross' (2003b) typologies of "diffuse"/"point", "proximate"/"distant" and "lootable"/"obstructable"/"legal" resources belong in this context. Especially the regional concentration of resources has sometimes been conducive to secessionist insurgencies, when local commu-

nities feel deprived of the respective benefits or suffer from ecological hardships such as oil spills. On the other hand, diffuse resources can be problematic since their exploitation is hard to control by the central state. Therefore, alluvial diamond production in countries such as Sierra Leone or the DRC is more suitable for rebel financing (or looting) in civil wars than the sophisticated mining of dept shaft gems in Botswana (Collier et al. 2003: 127). In addition, diamonds can be fairly easily smuggled out of a conflict region whereas other commodities such as timber or oil demand a more or less advanced infrastructure which can be easily obstructed, destroyed or damaged by opponents. Accordingly, Michael Ross (2003b: 55) has distinguished between "lootable"/"non-lootable" and "obstructable" and "non-obstructable" resources. Moreover, as Ross points out, the legality of a commodity is of relevance since illegal substances (such as drugs or "blood diamonds") tend to command high prices on the global market, precisely because they are illegal. When rebel groups are willing to cooperate with criminal networks or run their networks abroad, they can greatly benefit from this trade. On the other hand, governments will rather try to avoid illicit commodities as a source of income since most of them are concerned with their public image (Paes 2004: 94). One can add more examples showing the relevance of location and techniques of exploitation: Offshore and onshore extraction of oil and gas entails different implications for the likelihood of civil war. Whether resources are "obstructable" and "lootable" depends clearly on the type, but more precisely on their exact location and technical modes of exploitation.

Of course, natural resource production conditions can differ with respect to the *degree of abundance* and the *degree of dependence* as a source of revenue. First of all, dependence may vary not only in terms of the value of natural resources as a percentage of exports or the GDP but also with regard to diversification within this dependence. Vulnerability to external price shocks is more likely if the country depends on a single commodity than if there are several different natural resources. More importantly, dependence and abundance are not identical phenomena as often assumed in both academia and the public (s. de Soysa 2000: 113). A country can rely heavily on oil for exports, whilst wealth in this respect is questionable. Oil constituted over 75% of Nigeria's exports in 2002, but if we keep in mind that Nigeria's population exceeds 100 million inhabitants by far then – statistically – one Nigerian would have earned a miserable 30 cents a day from the US$ 13.7 billion Nigerian oil export sales in 2002. In contrast, the earnings capita in Equatorial-Guinea would have been 50 times higher (US$ 14.87). In this case it can hardly be argued that dependence is a "proxy" for abundance. Oil abundance in Nigeria and Equatorial Guinea is a remarkably different phenomenon.

And this is only statistics. Where the money from oil exports really goes to is a completely different story. The *management of resource revenue* can differ substantially. This cuts into at least two aspects: Who receives the money and how the money is actually spent. In practice, multinational companies and local elites all too often stuff their own pockets, thus considerably reducing theoretical wealth for society as a whole. But even the way in which resource income is spent will affect the socio-economic and political outcome. As mentioned above, depriving resource rich regions of benefits can trigger civil unrest. Wasting money on "white elephants" and other unwise fiscal responses to sudden windfalls are a common phenomenon but by no means necessary outcomes, as exemplified by Botswana, where diamond revenues have been spent on infrastructure (roads, health service and education). Moreover, it is certainly possible that some of the losses are also due to poor administrative capacities in the general civil service or parastatal companies. Though seemingly the most relevant part of it, resource sector management includes more than just allocating revenues: Management embraces all activities in the upstream and downstream sector (see for oil Neumann 2005), and how it is done and who does it also makes a difference.

The quality of resource sector management depends to a great deal on the *actors directly and indirectly involved in resource exploitation*. Whether local elites divert – for what purpose and to what extent – resource-related income is not subject to a natural law. Furthermore, the conduct of involved companies can make a difference. Multinational companies (MNCs) can readily bribe governments or accept *sous table* payments or secure an undue part of the income.[20] They may not care about the environmental damage resource exploitation may do to the production areas. Of course, involved companies are not all the same. One has to differentiate between "supermajors", "majors", "independents", and "national oil companies" (s. Gary/Karl 2003: 11). It seems plausible that big or "reputable" MNCs (Bray in Bannon/Collier 2003) are more responsive to public campaigns by civil society groups and NGOs since they have a reputation to lose. This is particularly true for international financial institutions involved in resource production – for example the World Bank in Chad.[21] The more problematic partners for resource rich countries tend to be small companies and/or high risk investors. It might be even more risky when resources, for example diamonds in Angola, the DRC and Sierra Leone, are produced by

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[20] In Chad, for instance, the government will earn only around 13% of total oil revenues. In October 2004, given the oil price flying high, the Chadian government has protested against the distribution practice.

[21] For a critical review of the oil management regime in Chad see Ian Gary and Nikki Reisch (2005).

for example diamonds in Angola, the DRC and Sierra Leone, are produced by small operators or artisans.

Since foreign or Western governments are often close to the interest of MNCs or have their own vested interests, as in the case of energy supply, their actions and reactions have to be considered as part of the equation as well. Although the analytic framework presented here puts stress on domestic processes, on the systemic level we have to be aware of international economic relations in the resource sector and their effects on the country cases.

Finally, one should not forget reactions by the affected communities within the countries. Oil spills or feelings of marginalisation can prompt violent uprisings, yet not necessarily so. In Chad, regional leaders and civil society have thus far opted for peaceful protest.

6. The Methodological Challenge: Capturing Complexity

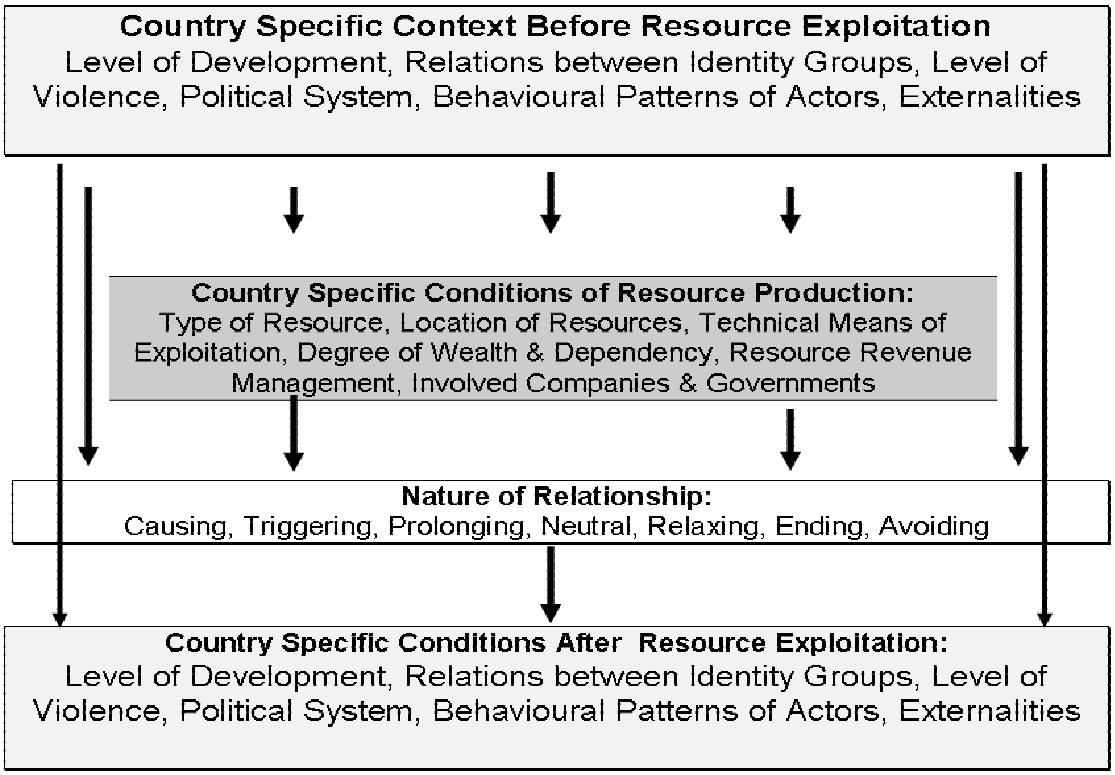
It is probably easier to make the case for complexity than studying it, but given the nature of the subject there does not seem to be a credible alternative. At least complexity refers to dynamics and interplays, the nature of possible links, concepts and hypotheses, and the appropriate research designs (s. also Snyder/Bhavnani 2004).

6.1 Dynamics and Interplays

The study of resource politics must include all contextual variables and their relative weight and dynamics must be understood precisely. As outlined above, a country's general socio-economic and political context must be assessed before resource exploitation becomes a relevant political and socio-economic issue. The resource specific context and its possible variations over time should be scrutinized carefully and it should be taken into account that, principally, it can depend partly on the general, pre-resource conditions of the country. It may turn out that the "resource curse" disappears when the pre-resource context is entered in the equation. A simplified overview of respective dynamics is shown in figure 1.

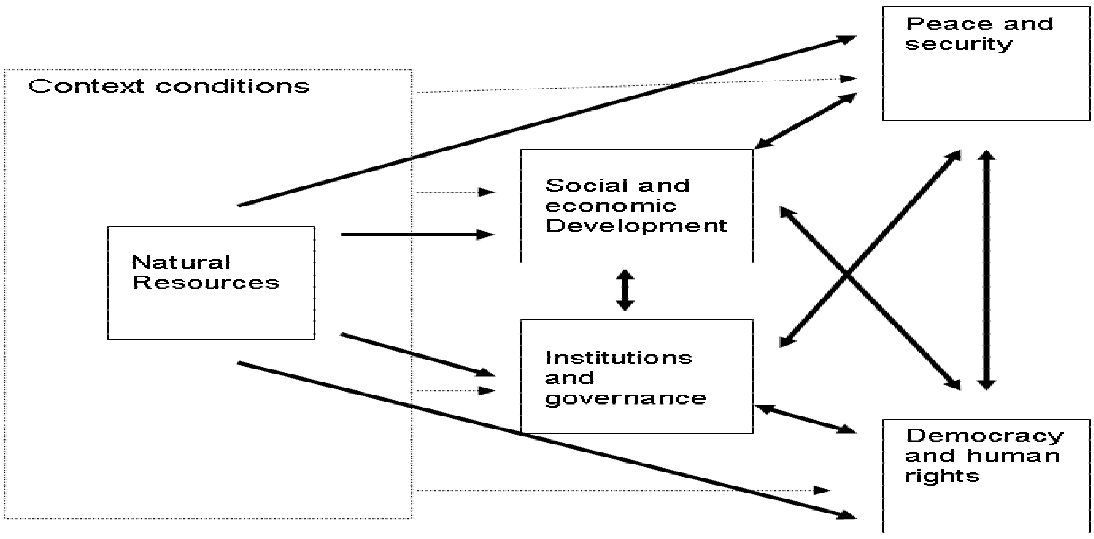
After that, the next crucial step is a careful analysis of the link between the resource specific context and the political and socio-economic variables. As a matter of fact, these variables belong to the general conditions of the country and it is essential to single out whether their change is caused by the resource specific context or by other developments.

Figure 1: Dynamics of Resource Politics (simplified)



Having said this, possible complexity is not confined to linear sequential relations over time. Since resource abundance or dependence affect at least four areas, and socio-economic development and political developments are interrelated in a number of ways, multifaceted complex mechanisms, interplays as well as direct and indirect effects are more likely than simple relations (s. figure 2).

Figure 2: Interplay of Resource Politics (simplified)



6.2 Rethinking the Direction and Nature of the Relationship

The debate on the "resource curse" has stressed on negative aspects and has been quite silent about positive effects. We must allow ourselves to think of the effects of natural resources not only as necessarily detrimental but potentially beneficial, or even neutral as well. Naïve overoptimistic expectations on the windfalls should not be replaced by the now fancy worst-case scenarios. In essence, the "resource curse" theory claims that respective countries would perform better without resources. Is that true? For example, it is rarely taken into account that oil-*importing* countries in sub-Saharan Africa have experienced severe economic hardships in times of high oil prices. Would resource rich countries such as Botswana and Gabon be better off without their assets? Is there any realistic prospect for Chad to develop without its oil? Even in terms of violent conflict, natural resources offer a potential for avoiding or ending them: Co-opting opposition may hinder democratisation, but this kind of rentier-effect (Ross 2001) is not consistent with any grievance-related violence caused by natural resources. This suggests that there might be several types of "curses", one being the autocratic rentier type, another the civil war type. And even if that sounds cynical, natural resources can help end wars when revenue is used to impose a victor's peace as in Angola in 2002: The prospect to participate in oil trade can motivate powerful international actors to press for peace, as has been the case in Sudan since 2003.[22]

6.3 Concepts and Hypotheses

In any case, complexity cannot be understood fully unless we have clear-cut concepts of the phenomena under investigation. It has already been noted that resource abundance and dependence are not identical phenomena. The debate, however, has treated these phenomena as synonyms and most of the quantitative research only pretends to study resource wealth, when in fact dealing with resource dependent states. Moreover, John Clark's distinction between prospects for democratisation and the consolidation of democracy is a case in point, yet the need for careful conceptualisation applies to all key concepts in the study. In fact, there can be no meaningful cross-country analysis and comparison without transparent and valid concepts (Dogan/Pelassy 1984; Nohlen 1994, 2002).

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[22] The peace accord between Khartoum and the SPLA, signed on January 9, 2005, has been facilitated by US officials. It must not be confused with the war in Darfur. In this case, it can be argued that increased violence is partly due to the exclusion of the Darfur rebels of the peace negotiations.

Moreover, we need to have precise hypotheses for the exact link between the specific context conditions and the affected areas. Table 2 gives an overview on some of the possible hypotheses. It is beyond doubt, however, that these hypotheses are tentative and should be subject to further sophistication in the future. Especially pre- and non-resource context conditions should be systematically added to a theoretical framework.[23]

Table 2: Tentative Hypotheses for Context-Dependent Effects of Natural Resources

Resource specific condition	Direct effect on…	Most favourable	Least favourable
Type	Peace & security	Obstructable Non-lootable	Non-Obstructable Lootable
	Socio-economic development	Stable or constantly growing commodity prices	Volatile or declining commodity prices
	Democracy (likelihood of political conditionality)	Externally non-sensitive	Externally sensitive
Geographic location	Peace & security (secessionism)	Regions not in conflict with central government	Regions traditionally in conflict with central government
Technical mode of exploitation	Peace & security (resource looting)	High technical level (e.g. deep shaft gems)	Low technical level (e.g. alluvial gems)
Degree of dependence	Socio-economic development	Low Different commodities	High One single commodity
Degree of abundance (revenue potential per head)	Socio-economic development	High	Low
Revenue management	Socio-economic development	Transparent High capacity Development oriented	Non transparent Low capacity Corrupt
Involved companies and operators	Quality of institutions/Transparency	Big "reputable" & responsive MNCs Involvement of IFI	Small "high-risk" companies or small operators and artisans

[23] For somewhat similar hypotheses related to type and violence respectively, see Ross (2003; 2003c). Boschini et al. (2004) show that whether or not natural resources affect growth depends on the interplay of general context (governance) and resource specific context conditions (type).

6.4 Choosing Appropriate Research Designs

As for general research designs, the empirical study of the political economy has been characterised by the juxtaposition of quantitative (statistical) studies and in-depth country case studies (s. Ross 2003c, 2004). Their respective merits are not to be denied, yet both have their shortcomings, which should be outlined briefly.

In quantitative studies all variables have to be quantified in one way or another in order to process the data statistically. This requires reliable and valid data, which are often not available in the quantity and quality that is desirable. This is commonly due to the lack of (reliable) statistics or the fact that the phenomenon under investigation is hard to quantify, and some of the variables involved in the political economy of natural resources, such as the quality of institutions and the resource sector management, clearly belong to these problematic variables. Using proximate indicators cannot be avoided fully in quantitative studies, but shortcomings such as mixing up dependence and abundance can be overcome and, indeed, this has already been accomplished (s. de Soysa 2000).

Moreover, since we need large numbers of cases for meaningful statistical control, the number of tested variables is commonly relatively low and it is not possible to embark on in-depth testing of single variables and cases. Hence, statistical control is rather a rough brush. It is very strong with regard to generalisation (both on description and correlations), but not that strong with regard to explaining exceptions and the exact mechanism of causation. Generally, quantitative approaches aim at establishing probabilistic relationships. At best, one will discover that adverse effects of natural resources are most probable under a certain set of variables. But individual cases tend to disappear behind coefficients. Especially when correlations are very high, scholars do not bother too much about explaining deviant cases and settle for their probabilistic models.

Single case studies avoid the "rough brush" since they are obviously capable of in-depth analysis and this is usually more or less accomplished. However, single case studies suffer from a number of other shortcomings: Frequently yet not necessarily, theoretical reflections are widely considered obsolete and a large number of single case studies tend to be descriptive or anecdotal rather than systematic. Moreover, the potential of single case studies to choose deviant cases or exceptions from general tendencies is rarely exploited (s. Eckstein 1975). Case studies on the resource curse tend to choose "positive" examples of the "curse" such as Angola, the DRC and Sierra Leone rather than full or partial exceptions such as Botswana or Gabon. Whereas these problems can and should be relatively easily overcome in the future, one limitation of single case studies cannot be resolved.

Single cases are inevitably incapable of providing a sound basis for generalisations. At best, the case under investigation can be plausibly explained; whether the respective explanations apply to other cases must be subjected to further comparison.

Hence, comparative research designs which examine a relatively small but carefully selected number of countries more in-depth ("Small N comparison") appear to be the most appropriate research designs for a future study of the political economy of natural resources in sub-Saharan Africa and elsewhere. This is not to say that other research strategies are obsolete or should be replaced by the comparative method. Given the wide absence of sophisticated comparisons in the political economy of natural resources[24], a comparative research design is rather another methodology that should be added to the tool box, since comparison, if applied adequately, can be very effective in isolating exact mechanisms of causal relationships.

Of course, the isolating power of the comparative method depends on the respective research design. In this respect the selection of cases must be organised along similarities and differences within the context conditions and the operative variables, i.e. those phenomena of which we want to know a relationship. The most promising option is to apply a "most-similar system" or a "comparable cases strategy" (s. Sartori 1994; Lijphart 1975), in which all or a large number of (relevant) variables are similar except for the variables between which a relationship is hypothesized. In fact, conditions like that constitute a natural experiment and respective settings are hard to be found in real cases. At best, most of the time it will be possible to have an approximate most similar system which is better than giving in to social complexity. A respective research design should include cases that share similar degrees of abundance in and dependence on natural resources and at least some pertinent non-resource conditions yet show differences with regard to the areas the resource curse is said to affect. An identical framework of analysis including respective hypotheses (all contextual conditions) should be applied to single out the key relationships. A study of this kind, at least approximately, has been conducted on the link between the mode of extraction (alluvial diamonds) and civil war (Snyder/Bhavnani 2004).

Another option is to apply an approximate "most-different system" (s. Sartori 1994): The problem can be tackled adversely by identifying exceptional resource rich or dependent cases that differ in a high number of aspects yet have apparently been spared by the

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[24] Exceptions are the comparison of Nigeria and Indonesia (Bevan/Collier/Gunning 1999), the medium N comparison of 13 violent resource rich countries by Ross (2003c) and the Small N study (Ghana,Guinea and Sierra Leone) by Richard Snyder and Ravi Bhavnani (2004).

"curse". Having selected respective cases, possibly drawn from all over the world and not Africa alone, respective hypotheses can be applied to single out why the "paradox of plenty" has not prevailed.

Both strategies differ significantly to Ross' (2003c: 10; 2004) who, in his "Medium-N Analysis", selects 13 countries on the basis of the assumption that natural resources are "most likely" connected to violence in these cases. Ross does not aim at examining the relative causal weight of contextual variables *vis à vis* natural resources but instead at identifying causal mechanisms and their variations by using a number of hypotheses of different transmission channels and aspects of violence, such as duration and intensity. He does not exploit differences in outcomes fully since non-violent cases are a priori excluded. Nevertheless, this methodological approach is highly fruitful and his findings are consistent with our assumption that the effects of natural resources are far more complex than commonly assumed and that they depend on contextual conditions. Moreover, his six findings[25] could hardly have been established without using this particular research design.

As a matter of fact, comparative research designs have to be created by scholars according to their research question and the empirical situation. For example, the hypothesis that pre-resource country conditions are of superior explanatory value can be tested by examining the historical conditions before resource extraction in a number of countries that differ with regard to areas and intensity of possible detrimental effects by natural resources.

As argued above, the process should not stop here: Promising and consolidated hypotheses can be put to the test in a more quantitative manner afterwards. It is not one method that is preferable at any time and any place, but their combination at different stages of the scientific process.

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[25] These findings include: Resource wealth and civil war are not linked by a single mechanism. Resource wealth does not always make existing conflicts worse. Resources offer means for preemptive repression (Ross 2003c: 38-39).

7. Conclusions: What Can Be Done?

The huge body of literature on the "resource curse" provides several explanations for the detrimental effects of natural resources. Affected areas include socio-economic development, the quality of institutions and governance, the prospects for democracy and human rights as well as peace and security. However, if at all, the "curse" is a mere probability and a number of examples, in sub-Saharan Africa and elsewhere, clearly indicate that context conditions have to be added to the equation when studying the exact mechanisms and transmission channels of the "curse". These context conditions deserve differentiation and we have argued for a distinction between non- and pre-resource extraction conditions (such as the general level of development, relations between identity groups, the political systems etc.) and resource specific conditions (such as type, location, mode of extraction, degree of abundance and dependence, resource revenue management etc.). Moreover, the theoretical challenge of a contextually sensitive study of the political economy of natural resources must capture complexity beyond that distinction. This applies to dynamics and interplays between the context conditions as well as to the direction and nature of the relationship between resources and possibly affected areas which, by now, seems to be widely confined to purely negative effects. In the more narrow methodological sense, we argue in favour of precise concepts and carefully formulated hypotheses that integrate complexity rather than simplify the relationship. As for methodologies, the paper recommends adding sophisticated comparative designs ("Small and Medium N") to the tool box, with which one could isolate causal relationships and study the mechanisms more in-depth than with quantitative approaches and case studies.

Albeit the development of practical recommendations is not the purpose of this paper, we do not suggest that future research on resource politics should be limited to the ivory tower. In fact, a contextually sensitive study of the political economy of natural resources seems to be a precondition for the development of promising measures to tackle respective adverse effects.

The debate is already moving towards concrete recommendations, especially with regard to peacebuilding: USAID has developed a "toolkit for intervention" (USAID 2004), the World Bank has outlined "options and actions" to be taken by the international community (Bannon/Collier 2003). The Catholic Relief Services (Gary/Karl 2003: 79-82) have developed an exhaustive list of "recommendations" which advises numerous actors precisely what they should do. Respective recommendations include a variety of measures such as promoting governance, participation and supervision (s. appendix V).

These recommendations by far exceed international initiatives such as the "Publish What You Pay" campaign (Parham in Traub-Merz 2004), the "Extractive Industries Transparency Initiative" (EITI) and already more or less operational control and/or management regimes such as in Chad (s. Gary/Karl 2003: 73-76; Gary/Reisch 2005) or the Kimberley Process (Paes 2005), including many if not all of the contextual variables we have developed.

Whether all these measures will work in Africa and elsewhere is of course highly questionable. This is not only because it is easier to make recommendations than to implement and enforce them. In fact, it might prove premature to draw practical conclusions before the puzzle has been resolved completely. From our point of view, the success of measures of intervention and prevention will depend on more knowledge of:

- The exact role of general socio-economic and political conditions in general and in a given country (pre- and non-resource context)
- The exact role of resource specific conditions in general and in a given country
- The exact role of regional and international environments in general and in a given country
- The exact interplays, relative weights and dynamics of these conditions in general and in a given country.

It is, for instance, questionable whether one can transfer the relatively successful "Kimberley process" mechanism in the diamond sector to the oil sector. Wolf-Christian Paes (2005) has pointed out that, since diamonds have a very limited strategic significance for the global economy, it is much easier to agree on a control regime. The same applies to different country cases. Obviously, any measures of intervention and prevention should be designed according to the country or case specific conditions.

Therefore, identifying complex and dynamic causal mechanisms and different scenarios in different countries should be part of the future research agenda precisely because we want to tackle the problem adequately. There is no successful therapy without a careful diagnosis.

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Appendix I: Areas Possibly Affected by the Resource Curse and Transmission Channels*

Socio-Economic Development (Growth)	Governance and Institutions	Democracy and Human Rights	Peace and Security
• Lack of positive side(-)effects ("externalities") in resource sectors on other sectors (learning-by-doing, scale economies, backward and forward linkages) • Decline of other tradable sectors (Dutch disease) • Misguided economic policies (white elephants, inflated public employment, import substitution, excessive borrowing) • Macroeconomic vulnerability (commodity price volatility or decline)	• Colonial legacy of "extractive states" • Build-up of a rentier state fuelling: -extreme corruption -clientelism and neopatrimonialism -politically motivated & ineffective state activity in economy -weak state institutions (bureaucracy)	• Lack of economic and social modernization • Lack of government accountability and countervailing powers • Opportunity to co-opt and/or repress opposition • Foreign interest in resources makes joint pro-democratic political conditionality less likely and less promising	• Internal motive of grievance (exclusion of resource benefits and ecological damage) • Internal motive of greed (control over state apparatus & resource revenue) • External motive to intervene (foreign national interest: profiteering, energy supply, rivalries) • Opportunity to build & maintain military & rebel forces ("war economy") • Opportunity for guerrilla attacks and sabotage (extraction facilities)

* The table covers the more direct effects. Indirect effects are captured by figure 2.

Appendix II: General and Resource Specific Context Conditions

Context I **General and Country Specific Conditions** **(pre- and non-resource context)**	**Context II** **Resource Specific Conditions**
Level of socio-economic development Relations between Identity groups Political System Behavioural Patterns of actors Externalities (regional and international setting and processes, especially international economic relations) Etc.	Type, location and technical modes of exploitation Degree of abundance Degree of dependence Resource sector management (primarily revenues) Actors involved in production and management (MNCs, state enterprises and agencies, international economic relations) Communities directly affected by production and management

Appendix III: Socio-economic and Political Profile of Resource Rich Countries against Sub-Saharan Mean

	Development		Governance	Democracy		Peace
	Annual growth of GDP 1990-2003	HDI-value	Government Effectiveness 2002 (0-100)	Freedom House rating 2004 (7-1)		AKUF Internal violent conflict since last 10 years**
Angola	3.2	0.381	9.8	Not free	5.5	Yes**
Botswana	4.7	0.589	79.9	Free	2	No
CAR	1.8	0.361	4.6	Not free	6	Yes
Congo, DR	-3.9	0.365	1.5	Not free	6	Yes**
Congo, R.	1.8	0.494	8.2	Partly free	4.5	Yes
Equatorial-guinea	20.8*	0.703	5.7	Not free	6.5	No
Gabon	-0.2*	0.648	39.7	Partly free	4.5	No
Guinea	4.2	0.425	24.7	Not free	5.5	No
Liberia	4.7*	-	3.1	Not free	6	Yes
Namibia	3.7	0.607	62.9	Free	2.5	No
Nigeria	2.7	0.466	10.8	Partly free	4	Yes**
Sierra Leone	-3.1	0.273	2.6	Partly free	3.5	Yes
South Africa	2.3	0.666	69.1	Free	1.5	No
Sudan	N/a	0.505	11.3	Not free	7	Yes*
Sub-saharan mean	2.7	0.465	28.9	Partly free	4.24	-

* Refers to 1990-2002;

** Ongoing violent conflict in early 2005; column 2: countries between 2.2 und 3.2 are coded as average; column 3: countries between 0.415 and 0.515 are coded average: column 4: countries between 20.1 and 39.9 are coded "average"; column 5 (7 worst, 1 best rating): countries between 3.75 and 5.0 are rated "average". Column 6: yes is coded below average (-), no is coded above average (+).

Sources:

World Bank (2004): The World Bank World Development Report 2005. A Better Investment Climate for Everyone, Washington D.C.: Oxford Univ. Press, GDP per capita rank and data for 1990-2002, in: http://hdr.undp.org/statistics/data/index_countries.cfm.

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Freedom House, in: www.freedomhouse.org/research/freeworld/2004/table2004.pdf.

AKUF, in: www.sozialwiss.uni-hamburg.de/publish/Ipw/Akuf/kriege_afrika.htm.

Appendix IV: Potential Income p.c. from Resource Revenues

Appendix IVa: Diamond Production and Potential Income (p.c.) in sub-Saharan Africa

	Dependence on diamonds as a ratio of exports[a] (%)	Diamond Production 2001 in ct[b]	Diamond production 2001 in US$[b]	Population 2001 (m)[a]	Potential income per capita p.a US$[c]
Botswana	82	26,146,000	2,193,870,000	1.7	1290.51
South Africa	10	11,301,000	1,114,655,000	43.2	25.80
Angola	11	5,871,000	803,145,000	13.5	59.49
DRC	58	19,637,000	496,310,000	52.4	9.47
Namibia	41	1,502,000	322,340,000	1.8	179.08
Guinea	4	754,000	128,180,000	7.6	16.8
CAR	41	614,000	92,100,000	3.8	24.24
Sierra Leone	-	375,000	67,500,000	5.1	13.2
Liberia	-	155,000	23,250,000	3.2	7.27

Sources:

a. Afrika-Jahrbuch 2002;

b. www.terraconsult.be/overview.htm;

c. own calculation.

Appendix IVb: Oil Dependence and Potential Income (p.c.) from Export Earnings

	Dependence on oil in % of export (2002)[a]	Oil production in b/d (2002)[a]	Export earnings 2002 (in US$m)[a]	Population 2002 (m)[b]	Potential income per capita p.c./p.a.US$[c]
Nigeria	75.9	2,013,000	13,680	132.8	103.01
Angola	87.1	905,000	5,690	13.1	434.35
Sudan	77.5	233,000	1,510.9	32.8	46.06
Equatorial Guinea	92.0	237,000	2,713.2	0.5	5,426.4
Congo-Brazzaville	93.6	259,000	2,294.0	3.7	620.00
Gabon	80.5	295,000	2,551.9	1.3	1,963.00

Sources:

a. Neumann 2005;

b. Afrika-Jahrbuch 2003;

c. own calculation.

Appendix V: Measures of Intervention and Prevention

"Toolkit of Intervention" (USAID 2004)	"Actions and Options " (World Bank; Bannon/Collier 2003)	Relevant Actors for Intervention (Catholic Relief Services; Gary/Karl 2003)*
• Empower local communities through information access • Increase participation, dialogue, and partnership • Create sustainable livelihoods for artisanal and small-scale miners • Reduce macroeconomic dependence and vulnerability • Address gaps in national governance of host countries • Promote responsible behavior by large and small companies • Strengthen Governance of the international mineral trade • Create a safe space of reform • Monitor and assess development	• Reporting resource revenues (who gets the money?) • Commodity tracking systems (Where did it come from?) • Follow the money (The finance of illicit resource extraction) • Getting it done (Instruments of enforcement) • Attracting reputable companies to risky environments • Dampening price shocks	• National governments of oil exporters • International oil companies • The U.S. and other Northern governments • The World Bank and the IMF • Export Credit Agencies • United Nations • Civil Society

* Refers to oil only; some 40 detailed recommendations are given.